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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,842	01/15/2004	Torsten Niederdraenk	P03,0605	5088

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SCHIFF HARDIN, LLP
PATENT DEPARTMENT
6600 SEARS TOWER
CHICAGO, IL 60606-6473

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/18/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/757,842

Applicant(s)

NIEDERDRAENK, TORSTEN

Examiner

Walter F. Briney III

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1, 6, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshio et al. (Published Japanese Application 05-309943).**

Claim 1 is limited to “a directional microphone.” In the instant response, the applicant has amended claim 1—shown in the Non-Final Office Action filed 05 July 2006 to be anticipated by the prior art, which rejection is incorporated herein by reference—such that the third air volume comprises “air regions that are entirely unobstructed between the first and second membranes.” As correctly noted by the applicant, Yoshio fails to disclose such regions due to the presence of acoustic dampening materials 7a, 7b, 8a and 8b. However, this deficiency is overcome by an obvious modification.

In principle, mere elimination of an element and its function is obvious granted the function is not desired. See *Ex parte Wu*, 10 USPQ 2031; *In re Larson*, 144 USPQ 347; *In re Kuhle*, 188 USPQ 7; and MPEP § 2144.04(II). In this case, the element at issue is the acoustic materials 7 and 8 of Yoshio and the function is the resistive effect, which taken together with a given capacitance provides a desired directional response within a directional microphone. See paragraph [0024]. The question to be asked then

is whether or not the elimination of the resistance effect would be desirable? According to paragraph [0024] of Yoshio, it is clear that the acoustic materials 7 and 8 are meant to be changed to provide a specific impedance. In this way, Yoshio motivates those of ordinary skill to try various materials to achieve desired impedance, and thereby, a desired directionality. If the resistive component of a desired impedance was too low to be met by known materials, elimination of any materials would be a reasonable option.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to eliminate the acoustic materials 7 and 8 of Yoshio for the purpose of reducing a resistive impedance component to provide a desired directionality, where said elimination results in the removal of an undesired function.

Claims 6 and 12 are rejected for the same reasons presented in the Non-Final Office Action filed 05 July 2006 as well as the reasons presented above regarding claim 1 limited in part to "the directional microphone according to claim 1," as covered by Yoshio.

Claim 13 is limited to "a method for operating a directional microphone." This method is clearly performed by the microphone of claim 1, and is rejected in view of Yoshio for the same reasons.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 2-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshio in view of Schneider et al. (US Patent 4,504,703).**

Claims 2-5 and 7-9 are rejected for the same reasons presented in the Non-Final Office Action filed 05 July 2006 as well as the reasons presented above regarding claim 1 limited in part to "the directional microphone according to claim 1," as covered by Yoshio.

3. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killion et al. (US Patent 5,524,056) in view of Yoshio.**

Claim 11 is rejected for the same reasons presented in the Non-Final Office Action filed 05 July 2006 as well as the reasons presented above regarding claim 1 limited in part to "the directional microphone according to claim 1," as covered by Yoshio.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

4. **Claim 10 is allowable.**

Claim 10 is limited to "a directional microphone." None of the cited prior art provides a "small penetration opening for barometric pressure equalization." Thus, claim 10 is allowable over the cited prior art.

Response to Arguments

Applicant's arguments with respect to claims 1-9 and 11-13 have been considered but are moot in view of the new ground(s) of rejection.

With respect to applicant's argument on page 9, lines 8-11, that Schneider's lack of a second sound entrance port would not permit the microphone to assume directional characteristics, it is respectfully submitted that Schneider was only cited to show the obviousness of the claimed diaphragm not the port structure. The port structure is obvious in view of Yoshio.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

wfb
12/8/06



SINH TRAN
SUPERVISORY PATENT EXAMINER